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* * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 14:55:02 ON 08 DEC 2008

=> fil .bec
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         1.26       1.26

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 14:58:45 ON 08 DEC 2008
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s (myoinositol or myo(2a)inositol)(2a)phosphate(2a)(synthase# or synthetase#)
FILE 'MEDLINE'
           829 MYOINOSITOL
          5658 MYO
         30830 INOSITOL
        165242 PHOSPHATE
        111718 SYNTHASE#
         36131 SYNTHETASE#
L1         198 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
               SYNTHETASE#)

FILE 'SCISEARCH'
          3013 MYOINOSITOL
          5319 MYO
         31299 INOSITOL
        186096 PHOSPHATE
        135855 SYNTHASE#
         36900 SYNTHETASE#
L2         189 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
               SYNTHETASE#)

FILE 'LIFESCI'
           169 MYOINOSITOL
          1629 MYO
         10963 INOSITOL
         49874 PHOSPHATE
         31796 SYNTHASE#
         11623 SYNTHETASE#
L3          59 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
               SYNTHETASE#)

FILE 'BIOTECHDS'
           199 MYOINOSITOL
           635 MYO
          1689 INOSITOL
         23111 PHOSPHATE
          7499 SYNTHASE#
          3314 SYNTHETASE#
L4          27 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
               SYNTHETASE#)

FILE 'BIOSIS'
          1217 MYOINOSITOL
         64640 MYO
         39917 INOSITOL
        258996 PHOSPHATE
        123638 SYNTHASE#
```

```
          47423 SYNTHETASE#
L5          215 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'EMBASE'
           1033 MYOINOSITOL
           4987 MYO
          28392 INOSITOL
         204894 PHOSPHATE
         112540 SYNTHASE#
          29029 SYNTHETASE#
L6          131 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'HCAPLUS'
           2599 MYOINOSITOL
          10330 MYO
          43172 INOSITOL
         612489 PHOSPHATE
         120355 SYNTHASE#
          54587 SYNTHETASE#
L7          239 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'NTIS'
              8 MYOINOSITOL
             28 MYO
            173 INOSITOL
           6623 PHOSPHATE
            304 SYNTHASE#
            206 SYNTHETASE#
L8            0 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'ESBIOBASE'
            314 MYOINOSITOL
           2327 MYO
          13816 INOSITOL
          59817 PHOSPHATE
          56362 SYNTHASE#
          12828 SYNTHETASE#
L9           85 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'BIOTECHNO'
            228 MYOINOSITOL
           1333 MYO
           9535 INOSITOL
          51707 PHOSPHATE
          29457 SYNTHASE#
          11179 SYNTHETASE#
L10          67 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
                SYNTHETASE#)

FILE 'WPIDS'
            271 MYOINOSITOL
            734 MYO
           3950 INOSITOL
         140210 PHOSPHATE
           7386 SYNTHASE#
           4082 SYNTHETASE#
L11          19 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR
```

```
                 SYNTHETASE#)

TOTAL FOR ALL FILES
L12       1229 (MYOINOSITOL OR MYO(2A) INOSITOL)(2A) PHOSPHATE(2A)(SYNTHASE#
                 OR SYNTHETASE#)

=> s l12 and (porteresia or coarctata or wild rice)
FILE 'MEDLINE'
            13 PORTERESIA
            20 COARCTATA
        180419 WILD
         16445 RICE
           186 WILD RICE
                 (WILD(W)RICE)
L13          4 L1 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'SCISEARCH'
            43 PORTERESIA
           121 COARCTATA
        196521 WILD
         56307 RICE
           709 WILD RICE
                 (WILD(W)RICE)
L14          7 L2 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'LIFESCI'
            19 PORTERESIA
            77 COARCTATA
        116642 "WILD"
         15971 "RICE"
           318 WILD RICE
                 ("WILD"(W)"RICE")
L15          1 L3 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOTECHDS'
             9 PORTERESIA
            11 COARCTATA
         18674 WILD
          6783 RICE
            34 WILD RICE
                 (WILD(W)RICE)
L16          1 L4 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOSIS'
            67 PORTERESIA
           489 COARCTATA
        246651 WILD
         83210 RICE
           910 WILD RICE
                 (WILD(W)RICE)
L17          5 L5 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'EMBASE'
             8 PORTERESIA
            16 COARCTATA
        150838 "WILD"
         10849 "RICE"
            84 WILD RICE
                 ("WILD"(W)"RICE")
L18          2 L6 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'HCAPLUS'
```

```
            41 PORTERESIA
           153 COARCTATA
        208082 WILD
        111404 RICE
           561 WILD RICE
                 (WILD(W)RICE)
L19          6 L7 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'NTIS'
             1 PORTERESIA
             0 COARCTATA
          3928 WILD
          2833 RICE
            41 WILD RICE
                 (WILD(W)RICE)
L20          0 L8 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'ESBIOBASE'
            28 PORTERESIA
            49 COARCTATA
        131031 WILD
         20680 RICE
           290 WILD RICE
                 (WILD(W)RICE)
L21          4 L9 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOTECHNO'
            10 PORTERESIA
            16 COARCTATA
         73649 WILD
          6637 RICE
            89 WILD RICE
                 (WILD(W)RICE)
L22          0 L10 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'WPIDS'
             4 PORTERESIA
            10 COARCTATA
         20563 WILD
         67977 RICE
            98 WILD RICE
                 (WILD(W)RICE)
L23          1 L11 AND (PORTERESIA OR COARCTATA OR WILD RICE)

TOTAL FOR ALL FILES
L24         31 L12 AND (PORTERESIA OR COARCTATA OR WILD RICE)

=> s l24 not 2004-2008/py
FILE 'MEDLINE'
       3254962 2004-2008/PY
                 (20040000-20089999/PY)
L25          0 L13 NOT 2004-2008/PY

FILE 'SCISEARCH'
       6074569 2004-2008/PY
                 (20040000-20089999/PY)
L26          1 L14 NOT 2004-2008/PY

FILE 'LIFESCI'
        776856 2004-2008/PY
L27          0 L15 NOT 2004-2008/PY
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```
FILE 'BIOTECHDS'
        119822 2004-2008/PY
L28          0 L16 NOT 2004-2008/PY

FILE 'BIOSIS'
       2845241 2004-2008/PY
L29          1 L17 NOT 2004-2008/PY

FILE 'EMBASE'
       2810797 2004-2008/PY
L30          0 L18 NOT 2004-2008/PY

FILE 'HCAPLUS'
       6590417 2004-2008/PY
L31          1 L19 NOT 2004-2008/PY

FILE 'NTIS'
         81185 2004-2008/PY
L32          0 L20 NOT 2004-2008/PY

FILE 'ESBIOBASE'
       1603403 2004-2008/PY
L33          1 L21 NOT 2004-2008/PY

FILE 'BIOTECHNO'
           586 2004-2008/PY
L34          0 L22 NOT 2004-2008/PY

FILE 'WPIDS'
       5682064 2004-2008/PY
L35          0 L23 NOT 2004-2008/PY

TOTAL FOR ALL FILES
L36          4 L24 NOT 2004-2008/PY

=> dup rem l36
PROCESSING COMPLETED FOR L36
L37           1 DUP REM L36 (3 DUPLICATES REMOVED)

=> d

L37  ANSWER 1 OF 1  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                   DUPLICATE 1
TI   Salinity-induced enhancement of L-myo-inositol 1-
     phosphate synthase in rice (Oryza sativa L)
SO   PLANT CELL AND ENVIRONMENT, (DEC 1996) Vol. 19, No. 12, pp. 1437-1442.
     ISSN: 0140-7791.
AU   Raychaudhuri A (Reprint); Majumder A L
AN   1997:16977  SCISEARCH


=> d ab

L37  ANSWER 1 OF 1  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                   DUPLICATE 1
AB      The salt-tolerant varieties of rice (Oryza sativa L.) exhibit enhanced
     activity of the chloroplast form of L-myo-inositol 1-
     phosphate synthase (EC 5.5.4.1) under NaCl treatment
     either during the seedling stage or in fully grown plants during field
     growth, The salt-induced enhancement was noticeable only in chloroplasts
     from light-grown plants, The effects of these treatments on the cytosolic
     inositol synthase activity were less pronounced, While the effect of salt
```

on the activity of the two forms was marginal in the salt-sensitive varieties during seedling growth, salinity affected the chloroplast inositol synthase activity adversely in these varieties during growth of the plants under field conditions, The salt-enhanced activities of inositol synthase(s) in the highly salt-tolerant varieties studied were found to be comparable to that observed in Porteresia coarctata, a halophytic wild rice species, The implications of these findings, which suggest a role of the inositol pathway in osmoregulation, are discussed.

```
=> s l12 and (salt(5a)(toleran? or resistan?))
FILE 'MEDLINE'
         73157 SALT
        166259 TOLERAN?
        530444 RESISTAN?
          3147 SALT(5A)(TOLERAN? OR RESISTAN?)
L38          6 L1 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'SCISEARCH'
        150211 SALT
        180548 TOLERAN?
        661756 RESISTAN?
          7835 SALT(5A)(TOLERAN? OR RESISTAN?)
L39         12 L2 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'LIFESCI'
         24369 SALT
         46687 TOLERAN?
        175663 RESISTAN?
          2080 SALT(5A)(TOLERAN? OR RESISTAN?)
L40          2 L3 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOTECHDS'
         12471 SALT
          8941 TOLERAN?
         39230 RESISTAN?
          1411 SALT(5A)(TOLERAN? OR RESISTAN?)
L41          2 L4 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOSIS'
        138754 SALT
        182261 TOLERAN?
        637231 RESISTAN?
          9454 SALT(5A)(TOLERAN? OR RESISTAN?)
L42          8 L5 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'EMBASE'
         76065 SALT
        143152 TOLERAN?
        487661 RESISTAN?
          2718 SALT(5A)(TOLERAN? OR RESISTAN?)
L43          2 L6 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'HCAPLUS'
        867947 SALT
        152945 TOLERAN?
       1614294 RESISTAN?
         17381 SALT(5A)(TOLERAN? OR RESISTAN?)
L44         10 L7 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'NTIS'
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```
         18511 SALT
         19657 TOLERAN?
         61160 RESISTAN?
           332 SALT(5A)(TOLERAN? OR RESISTAN?)
L45          0 L8 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'ESBIOBASE'
         34438 SALT
         85080 TOLERAN?
        194377 RESISTAN?
          3674 SALT(5A)(TOLERAN? OR RESISTAN?)
L46          7 L9 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOTECHNO'
         15513 SALT
         20204 TOLERAN?
        102127 RESISTAN?
          1379 SALT(5A)(TOLERAN? OR RESISTAN?)
L47          4 L10 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'WPIDS'
        407770 SALT
         58578 TOLERAN?
       1029419 RESISTAN?
          4387 SALT(5A)(TOLERAN? OR RESISTAN?)
L48          1 L11 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

TOTAL FOR ALL FILES
L49         54 L12 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

=> s l49 not 2004-2008/py
FILE 'MEDLINE'
       3254962 2004-2008/PY
                 (20040000-20089999/PY)
L50          2 L38 NOT 2004-2008/PY

FILE 'SCISEARCH'
       6074569 2004-2008/PY
                 (20040000-20089999/PY)
L51          4 L39 NOT 2004-2008/PY

FILE 'LIFESCI'
        776856 2004-2008/PY
L52          1 L40 NOT 2004-2008/PY

FILE 'BIOTECHDS'
        119822 2004-2008/PY
L53          1 L41 NOT 2004-2008/PY

FILE 'BIOSIS'
       2845241 2004-2008/PY
L54          4 L42 NOT 2004-2008/PY

FILE 'EMBASE'
       2810797 2004-2008/PY
L55          0 L43 NOT 2004-2008/PY

FILE 'HCAPLUS'
       6590417 2004-2008/PY
L56          4 L44 NOT 2004-2008/PY

FILE 'NTIS'
```

```
         81185 2004-2008/PY
L57          0 L45 NOT 2004-2008/PY

FILE 'ESBIOBASE'
       1603403 2004-2008/PY
L58          4 L46 NOT 2004-2008/PY

FILE 'BIOTECHNO'
           586 2004-2008/PY
L59          4 L47 NOT 2004-2008/PY

FILE 'WPIDS'
       5682064 2004-2008/PY
L60          0 L48 NOT 2004-2008/PY

TOTAL FOR ALL FILES
L61         24 L49 NOT 2004-2008/PY

=> dup rem l61
PROCESSING COMPLETED FOR L61
L62           6 DUP REM L61 (18 DUPLICATES REMOVED)

=> d tot

L62   ANSWER 1 OF 6  BIOTECHNO  COPYRIGHT 2008 Elsevier Science B.V. on STN
TI    Discrimination of genes expressed in response to the ionic or osmotic
      effect of salt stress in soybean with cDNA-AFLP
SO    Plant, Cell and Environment, (01 DEC 2002), 25/12 (1617-1625), 45
      reference(s)
      CODEN: PLCEDV  ISSN: 0140-7791
AU    Umezawa T.; Mizuno K.; Fujimura T.
AN    2002:35456646   BIOTECHNO

L62  ANSWER 2 OF 6  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                   DUPLICATE 1
TI   Processing and activation of chloroplast L-myo-inositol
     1-phosphate synthase from Oryza sativa requires
     signals from both light and salt
SO   PLANT SCIENCE, (APR 2002) Vol. 162, No. 4, pp. 559-568.
     ISSN: 0168-9452.
AU   Hait N C; RayChaudhury A; Das A; Bhattacharyya S; Majumder A L (Reprint)
AN   2002:483962  SCISEARCH

L62  ANSWER 3 OF 6  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                   DUPLICATE 2
TI   Myo-inositol-dependent sodium uptake in ice plant
SO   PLANT PHYSIOLOGY, (JAN 1999) Vol. 119, No. 1, pp. 165-172.
     ISSN: 0032-0889.
AU   Nelson D E; Koukoumanos M; Bohnert H J (Reprint)
AN   1999:67009  SCISEARCH

L62  ANSWER 4 OF 6     MEDLINE on STN
TI   Pleiotropic effects of the opi1 regulatory mutation of yeast: its effects
     on growth and on phospholipid and inositol metabolism.
SO   Microbiology (Reading, England), (1998 Oct) Vol. 144 ( Pt 10), pp.
     2739-48.
     Journal code: 9430468. ISSN: 1350-0872.
AU   Jiranek V; Graves J A; Henry S A
AN   1999018823     MEDLINE

L62  ANSWER 5 OF 6     MEDLINE on STN                      DUPLICATE 3
TI   Overexpression of D-myo-inositol-3-phosphate
```

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     synthase leads to elevated levels of inositol in Arabidopsis.
SO   Plant molecular biology, (1997 Mar) Vol. 33, No. 5, pp. 811-20.
     Journal code: 9106343. ISSN: 0167-4412.
AU   Smart C C; Flores S
AN   1997260385     MEDLINE

L62  ANSWER 6 OF 6  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                  DUPLICATE 4
TI   Salinity-induced enhancement of L-myo-inositol 1-
     phosphate synthase in rice (Oryza sativa L)
SO   PLANT CELL AND ENVIRONMENT, (DEC 1996) Vol. 19, No. 12, pp. 1437-1442.
     ISSN: 0140-7791.
AU   Raychaudhuri A (Reprint); Majumder A L
AN   1997:16977  SCISEARCH


=> d ab tot

L62   ANSWER 1 OF 6  BIOTECHNO  COPYRIGHT 2008 Elsevier Science B.V. on STN
AB    'Ionic effects' and 'osmotic effects' are major components of salt stress
      in plants. In this study these two parameters were clearly discriminated
      in soybean (Glycine max (L.) Merr.) using a modified cDNA-amplified
      fragment length polymorphism (AFLP) technique. Soybean (cv. Lee)
      seedlings were exposed to iso-osmotic treatment consisting of 100 mM NaCl
      and 12% (w/v) polyethylene glycol 6000 for 24 h. The NaCl treatment fully
      activated salt tolerance as confirmed by the
      expression of the inositol-1-phosphate synthase gene. Then, gene
      expression in each sample was examined by cDNA-AFLP, and 140
      differentially expressed cDNA fragments were obtained out of 13 000
      amplicons. The percentage of transcripts dependent on ionic
      (NaCl-specific) and osmotic effects (common with NaCl and polyethylene
      glycol) could be evaluated for 44 and 40% of them, respectively.
      cDNA-AFLP also revealed the distribution of transcripts in shoots and
      roots. The ionic effect-dependent gene expression was more abundant in
      roots indicating that they showed a greater response to ionic stress than
      shoots. Several ion transporters, transcription factors and redox enzymes
      that were specific to the ionic effect may play important roles in the
      salt tolerance of soybean. The technical advantages of
      this modified cDNA-AFLP method are also discussed.

L62  ANSWER 2 OF 6  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
     STN                                                  DUPLICATE 1
AB      Two forms of enzymatically active L-myo-inositol 1-
     phosphate synthase(s) have been detected in the
     chloroplasts of Oryza sativa L.  The two forms have been identified as
     comprising of similar to 80 and similar to 60 kDa subunits.  The similar
     to 80 kDa subunit is the predominant species in the dark grown etioplasts
     while the light/dark grown chloroplasts accumulate the similar to 60 kDa
     subunit.  The larger subunit is mostly membrane bound and the smaller one
     accumulates in the stromal fraction.  Purified similar to 80 kDa subunit
     is proteolytically cleaved to the similar to 60 kDa subunit by
     chloroplastic supernatant immunodepleted of the synthase protein, Further,
     in seedlings of salt tolerant varieties of Oryza grown
     under light/dark environment in presence of 100 mM NaCl, the similar to 60
     kDa subunit is phosphorylated in a Ca+2 dependent manner, commensurate
     with increased enzymatic activity.  It appears that a light and salt
     mediated interplay of protease(s) and kinase(s) system regulates the
     processing and activation of the chloroplast inositol synthase(s) in
     higher plants. (C) 2002 Elsevier Science Ireland Ltd.  All rights
     reserved.

L62  ANSWER 3 OF 6  SCISEARCH  COPYRIGHT (c) 2008 The Thomson Corporation  on
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STN DUPLICATE 2

AB In salt-stressed ice plants (Mesembryanthemum crystallinum), sodium accumulates to high concentrations in vacuoles, and polyols (myo-inositol, D-ononitol, and D-pinitol) accumulate in the cytosol. Polyol synthesis is regulated by NaCl and involves induction and repression of gene expression (D.E. Nelson, B. Shen, and H.J. Bohnert [1998] Plant Cell 10: 753-764). In the study reported here we found increased phloem transport of myo-inositol and reciprocal increased transport of sodium and inositol to leaves under stress. To determine the relationship between increased translocation and sodium uptake, we analyzed the effects of exogenous application of myo-inositol: The NaCl-inducible ice plant myo-inositol 1-phosphate synthase is repressed in roots, and sodium uptake from root to shoot increases without stimulating growth. Sodium uptake and transport through the xylem was coupled to a 10-fold increase of myo-inositol and ononitol in the xylem. Seedlings of the ice plant are not salt-tolerant, and yet the addition of exogenous myo-inositol conferred upon them patterns of gene expression and polyol accumulation observed in mature, salt-tolerant plants. Sodium uptake and transport through the xylem was enhanced in the presence of myo-inositol. The results indicate an interdependence of sodium uptake and alterations in the distribution of myo-inositol. We hypothesize that myo-inositol could serve not only as a substrate for the production of compatible solutes but also as a leaf-to-root signal that promotes sodium uptake.

L62 ANSWER 4 OF 6 MEDLINE on STN

AB Key factors which impact on the biosynthesis and subsequent fate of the phospholipid precursor inositol were studied as a function of growth phase in the yeast Saccharomyces cerevisiae. Both wild-type and strains disrupted for the OPI1 gene, the principal negative regulator of the phospholipid biosynthetic genes, were examined. Overexpression of the INO1 gene and overproduction of both inositol and the major inositol-containing phospholipid, phosphatidylinositol, varied as a function of growth phase. In opi1 cells, INO1 expression was constitutive at a high level throughout growth, although the level of transcript was reduced at stationary phase when the cells were grown in defined medium. In the wild-type strain, INO1 expression was limited to a peak in the exponential phase of growth in cells grown in the absence of inositol. Interestingly, the pattern of OPI1 expression in the wild-type strain resembled that of its putative target, INO1. Intracellular inositol contents of the opi1 strain were higher than those of the wild-type strain, with peak levels occurring in the stationary phase. Membrane phosphatidylinositol content paralleled intracellular inositol content, with opi1 strains having a higher phosphatidylinositol content in stationary phase. The proportion of the predominant phospholipid, phosphatidylcholine, exhibited a profile that was the inverse of the phosphatidylinositol content: phosphatidylcholine content was lowest in opi1 cells in stationary phase. The opi1 mutation was also found to have effects beyond phospholipid biosynthesis. opi1 cells were smaller, and opi1 cultures achieved a cell density twice as high as comparable wild-type cultures. opi1 cells were also more salt tolerant than wild-type cells: they were partly resistant to shrinking, more rapidly resumed growth, and attained a higher culture density after upshift to medium supplemented with 8% NaCl.

L62 ANSWER 5 OF 6 MEDLINE on STN DUPLICATE 3

AB In this paper, we report on the generation of transgenic Arabidopsis plants containing elevated levels of the gene product encoding the enzyme catalysing the first committed step in inositol biosynthesis, D-myo-inositol-3-phosphate (Ins3P) synthase. These plants exhibit both an increase in Ins3P synthase activity and an increase in the level of free inositol of over four-fold

compared to wild-type plants. Despite these changes, we could detect no significant difference in phenotype in the transgenic plants for a number of characteristics linked with putative functions of inositol and inositol-derived metabolites. Our results indicate that the proposed engineering of inositol metabolism to generate specific plant phenotypes (e.g. salt tolerance) may require the manipulation of several genes, and that Ins3P synthase activity can be manipulated to increase the pool size of free inositol.

AB The salt-tolerant varieties of rice (Oryza sativa L.) exhibit enhanced activity of the chloroplast form of L-myo-inositol 1-phosphate synthase (EC 5.5.4.1) under NaCl treatment either during the seedling stage or in fully grown plants during field growth, The salt-induced enhancement was noticeable only in chloroplasts from light-grown plants, The effects of these treatments on the cytosolic inositol synthase activity were less pronounced, While the effect of salt on the activity of the two forms was marginal in the salt-sensitive varieties during seedling growth, salinity affected the chloroplast inositol synthase activity adversely in these varieties during growth of the plants under field conditions, The salt-enhanced activities of inositol synthase(s) in the highly salt-tolerant varieties studied were found to be comparable to that observed in Porteresia coarctata, a halophytic wild rice species, The implications of these findings, which suggest a role of the inositol pathway in osmoregulation, are discussed.

```
=> log y
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   112.96     114.22

STN INTERNATIONAL LOGOFF AT 15:21:23 ON 08 DEC 2008
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